Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
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Additional Spectrum for Unlicensed Services Below 900 MHz and in the 3GHz Band	)	ET Docket No. 02-380
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COMMENTS OF THE
INFORMATION TECHNOLOGY INDUSTRY COUNCIL

The Information Technology Industry Council ("ITI"), respectfully submits these comments in the above-captioned docket. ITI represents the nation's leading information technology companies, including computer hardware and software, Internet services, and wireline and wireless networking companies. ITI's member companies represent approximately $600 billion in worldwide revenue and employ over one million individuals in the United States.

I. INTRODUCTION

ITI applauds the Commission for its ambitious and forward looking efforts to critically examine the nation's spectrum policy and resources. We believe that the Federal Communication Commission's ("Commission" or "FCC") efforts, including the Spectrum Policy Task Force, will help improve the management and assignment of spectrum in the United States. By developing a proactive and modern system of spectrum policy, the Commission will improve the

opportunities for technical innovation, as well as strengthen nation's global leadership in these important technology issues.

In particular, we support the Commission's proceedings, such as this one, seeking to provide new areas of unlicensed spectrum. ITI supports policies that will promote the rapid development of affordable, high-speed Internet access. The goal is to ensure that the maximum number of consumers can experience the full potential of the Internet and the information technology revolution. Wireless technologies using unlicensed spectrum have enormous potential to advance that goal.[1]

II. THE IMPORTANCE OF UNLICENSED SPECTRUM

Wireless devices operating in unlicensed spectrum bands (using technologies such as 802.11, Bluetooth, and Ultra-Wide Band) are an important and rapidly growing segment of the information technology industry. According to Gartner, frequent WLAN users in North America are expected to grow from 4.2 million in 2003 to 31 million in 2007.[2] In 2002 alone, home Wi-Fi hardware shipments grew 160%.[3]

Along with the number of users, the number and variety of wireless IT products and applications is also exploding. The wireless home network connecting one or more computers is evolving to include televisions, DVD players, MP3 players, and gaming devices, all simultaneously connected to the computer and each other through wireless technology. Public "hot spots" using wireless technology are being launched everywhere from airport lounges to university libraries. Moreover, these wireless technologies are serving as an "enabling" platform, promoting innovation in applications and equipment, as well as the deployment of

[1] See ITI 10 Point Plan to Bring Broadband to More Americans [http://www.itic.org/policy/brdbnd_020502.pdf]
[2] Gartner, Inc, Press Release, *Gartner Says Frequent Users of Wireless LANs Will Total 4.2 Million in 2003,* March 26, 2003.
[3] InStat MDR, *Attractive Cost of 802.11b Drove Wi-Fi Shipments in 2002*, December 2002.

other complementary technologies such as broadband. Wireless technologies such as Wi-Fi have many important benefits to consumers, businesses, and the economy. In many cases, these technologies are enabling access to informative and sometimes life saving technologies for schools and healthcare providers. Furthermore, research has found a significant increase in productivity for companies who have invested in the deployment of technologies utilizing unlicensed spectrum such as wireless LANs. One study has indicated that wireless LAN access results in an average of 1.75 additional hours worked per day for a 22% overall productivity improvement. The same study also confirmed an increase in accuracy of work performed with 39% of end-users reporting that wireless LAN technology improves the accuracy of everyday tasks and 47% of healthcare organizations finding significant improvements in accuracy.

In addition to offering local mobility with Wireless LANs, Wireless technologies have begun to play an increasingly important role in providing broadband connections for customers who would otherwise not have access to high speed Internet service.[4] Approximately 1,500-1,800 Wireless Internet Service Providers or WISPs are providing license-exempt broadband service to approximately 591,000 subscribers in the U.S. (generating more than $250 million in annual revenue), with subscribership expected to double by the end of 2003[5]. Another indicator of the relative health of this new access industry, investments in WISPs, are growing with one recent, conservative survey finding an infusion of $445m in 2002.[6] The same survey also found that the majority of Wireless ISPs are competing with Cable and DSL in metropolitan areas thus, offering a viable "facilities" based alternative in addition to offering more conventional rural broadband service.

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[4] *M-33 Access Deploys High-Speed Broadband Wireless in Rural Areas*, Broadband Wireless Exchange Magazine, [www.bbexchange.com/stories/2002/m33access022002.htm]
[5] In-Stat MDR, *Unlicensed Spectrum Drives Wireless Broadband Infrastructure beyond WiFi*, December, 2002
[6] Goldman, *VCs Love WISPs*, Dec. 19, 2002 [http://www.thefeature.com]

III. THE TV BROADCAST SPECTRUM

The Commission has requested comments on the feasibility of allowing unlicensed devices to operate in the TV broadcast spectrum. ITI strongly supports this effort to identify new unlicensed spectrum. Based on our ongoing review of the issues raised, we believe that the use of unlicensed devices in the proposed spectrum is feasible, subject to reasonable conditions of compatibility and keeping in mind the distinct circumstances exist within the proposed frequency bands.

As ITI has previously asserted in the Spectrum Policy Task Force proceeding, in order to meet the rapidly growing demand for unlicensed wireless networks, the Commission will need to identify additional spectrum for these uses.[7] To that end, ITI supports a variety of other efforts aimed at securing additional unlicensed spectrum.[8] This proceeding is a logical step in this continuing effort.

ITI recognizes and appreciates the progress made to secure unlicensed spectrum in areas such as the 5GHz band, but because of the rapid growth of existing technologies and rapid innovation in the area of wireless technologies, it remains important to identify new unlicensed spectrum. At current growth rates, bandwidth will quickly be consumed in more congested metropolitan areas. This growth in wireless networking is occurring during a time when consumer electronic spectral use continues to climb with cordless telephones, as an example, now reaching an installed base of 130m or 1.5 per household.[9] Thus, opportunities for interference and performance degradation or unavailability increase as more devices increasingly

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[7] ITI Comments to the FCC Spectrum Policy Task Force [www.itic.org/policy/fcc_020708.pdf]
[8] ITI has endorsed, S159, the Jumpstart Broadband Act, introduced by Senator Barbara Boxer. [http://www.itic.org/policy/2003/030204_sen.pdf] ITI also supported the petition from the Wireless Ethernet Compatibility Alliance ["WECA"] to allow unlicensed usage of the 5470-5725MHz band for Wireless LANs.
[9] FCC Spectrum Policy Task Force Report of the Unlicensed Devices and Experimental Licenses Working Group, page 6.

share the same spectrum. As this proceeding demonstrates, it is important to find additional spectrum now to prepare for anticipated growth.

The TV broadcast spectrum identified in the Notice of Inquiry is well suited for potential unlicensed uses. This spectrum has the potential to provide ample contiguous spectrum that is essential for the exploding number and types of uses for unlicensed spectrum devices. This spectrum is also very suitable for potential last mile broadband solutions given the attributes inherent in its placement in the lower end of the spectrum. In fact, the spectral characteristics of the band below 1 GHz offer some unique and rare opportunities to solve some of the distance and coverage issues. A number of respondents included comments in the Spectrum Policy Task Force proceeding regarding the benefits, from Broadband to scientific research, and importance of allowing below 1 GHz usage.[10]

While ITI supports this choice of spectrum for unlicensed uses, we recognize that there are relevant distinctions between various parts of the spectrum identified by the Commission. As the Commission notes, there are specific questions concerning interference created on channels 2-4, 37, and 14-20. Moreover, there will be differences in the spectrum available above channel 51 due to changes in the use of that spectrum in part as the result to the digital TV transition. We recognize that the needs of each of these parts of the spectrum will vary depending on the different licensed uses and other technical issues, and that the availability of unlicensed spectrum in these bands will reflect those variations. We pledge to work with the Commission to find the appropriate solutions particular to each piece of the spectrum in question.

In any case, ITI recognizes that whatever spectrum in this range is identified for use as unlicensed spectrum, there will be an obligation to prevent harmful interference to current or future licensed services and government operations and to accept interference from these

services and operations. The key in this process will be to create an environment of innovation that will allow the creation of new technologies and new uses so long as they are compatible with the licensed services. With this in mind, ITI does not believe that the digital TV transition will be delayed or affected in any negative way by this proceeding.

As the Commission moves forward in this process, ITI stresses the importance of finding the proper balance between flexibility and certainty. It is important that the Commission to sufficiently flexible to permit new technologies and services to thrive. On the other hand, coherent investment decisions by both the unlicensed devices manufacturers and licensed spectrum holders will require some degree of certainty about the regulatory environment.

IV. CONCLUSION

ITI appreciates the opportunity to express our views to the Commission and we look forward to actively collaborating with the FCC on these important matters.

Respectfully submitted,

INFORMATION TECHNOLOGY INDUSTRY COUNCIL

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[10] Timothy K. Kratz, *University of Wisconsin*, Comments on 02-135 [SPTF]